

What Is Claimed Is:

1. A calibration cassette pod for robot teaching comprising:

a cassette pod body and a cassette pod door, said cassette pod body is constructed of a top panel, a bottom panel, two side panels and a front panel defining a cavity therein;

a first plurality of ribs formed on an inside surface of said two side panels and said front panel each having a preset depth sufficient for supporting an edge portion of a wafer;

an optical detector housing mounted on an opening in said front panel adapted for receiving an optical detector therein; and

an optical detector comprising a light emission source and a photo diode receiver for determining the position of said edge portion of the wafer;

2. A calibration cassette pod for robot teaching according to claim 1, wherein said light emission source comprises a second plurality of light emission units and a second plurality of photo diode receivers.

3. A calibration cassette pod for robot teaching according to claim 1, wherein said second plurality is at least three.

4. A calibration cassette pod for robot teaching according to claim 1, wherein said second plurality is ~~preferably~~ at least five.

5. A calibration cassette pod for robot teaching according to claim 1 further comprising a process controller for receiving signals from said optical detector and comparing to a stored datum.

5. A calibration cassette pod for robot teaching according to claim 1, wherein said light emission source emits a visible light beam.

6. A calibration cassette pod for robot teaching according to claim 1 further comprising a robot arm controlled by said process controller.

7. A calibration cassette pod for robot teaching according to claim 2, wherein said optical detector is mounted in said optical detector housing with said second plurality of light emission units and said second plurality of photo diode receivers protruding into said cavity of said cassette pod body.

8. A calibration cassette pod for robot teaching according to claim 1, wherein said cassette pod body when installed on a loadport of a process machine with said cassette pod door removed, allows a robot arm to deliver/remove a wafer to/from said cavity.

10. A method for calibrating a robot arm by a calibration cassette pod comprising the steps of:

providing a cassette pod body and a cassette pod door, said cassette pod body being constructed of a top panel, a bottom panel, two side panels and a front panel defining a cavity therein;

providing a first plurality of ribs on an inside surface of said two side panels and said front panel each having a preset depth sufficient for supporting an edge portion of a wafer;

mounting an optical detector housing on an opening in said front panel adapted for receiving an optical detector therein, said optical detector comprising a light emission source and a photo diode receiver for determining the position of said edge portion of the wafer;

providing a process controller for receiving signals from said light emission source and said photo diode receiver;

manually operating said robot arm and loading a wafer into said cavity such that said edge portion of the wafer is positioned in-between said light emission source and said photo diode receiver and in a correct position on top of one of said first plurality of ribs;

resetting a reading on said process controller to zero;
and

automatically operating said robot arm and loading a wafer into said cavity obtaining a new reading on said process controller and determining its deviation from zero.

11. A method for calibrating a robot arm by a calibration cassette pod according to claim 10 further comprising the step of providing a second plurality of light emission units and a second plurality of photo diode receivers.

12. A method for calibrating a robot arm by a calibration cassette pod according to claim 10 further comprising the step of providing six light emission units arranged in a single row and six photo diode receivers in a single row positioned in a mirror image to said six light emission units.

13. A method for calibrating a robot arm by a calibration cassette pod according to claim 12 further comprising the step of resetting a reading on said process controller to zero when said edge portion of the wafer blocks three adjacent light emission units from three corresponding photo diode receivers.

14. A method for calibrating a robot arm by a calibration cassette pod according to claim 10 further comprising the step of emitting visible light beam from said light emission source.

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